

4 T H Q U A R T E R

# 2001 Operational Report to Congress

J U L Y - S E P T E M B E R , 2 0 0 1

## *Overall*

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- In response to the terrorist attack on the United States on September 11, TVA implemented emergency response plans throughout our operations and activated our major Emergency Operations Centers. This included a number of activities to ensure public safety and the security of our dams, including assessing the potential risk for each hydro project and prioritizing projects based on restart capabilities, generation, transmission, and potential economic impacts. We have taken additional security measures at our nuclear plants, and we will maintain this level of security for as long as necessary. At each plant, we have a security plan that meets the federal regulations approved by the Nuclear Regulatory Commission.
- Throughout the quarter, TVA's power system continued to set performance records in meeting the electric energy needs of the 8.3 million people of the Tennessee Valley. On July 30, the TVA power system met the peak power demand for the summer—27,368 megawatts—as temperatures across the region averaged 91 degrees.



# Milestones

## OPERATIONS

- TVA is continuing to update and modernize the TVA transmission system to ensure a reliable power supply for our customers. During the quarter, we completed four delivery points and built 21 miles of transmission lines. For the year ending this quarter, TVA's transmission reliability to customers once again was 99.999 percent.
- TVA staff participated in a discussion initiated by the Federal Energy Regulatory Commission on the development of a Regional Transmission Organization for the southeastern United States. Because public power is an integral part of the nation's transmission grid, ways must be found for public power to be part of better regional transmission expansion and control, and TVA is supporting those efforts.
- To continue meeting growing demands for electricity, TVA has built an additional 680 megawatts of new combustion-turbine capacity. The turbines in Haywood County, Tennessee, began operation this summer. For the fiscal year ending this quarter, the new units generated almost 200,000 megawatt-hours of electricity to meet peak power demands.
- TVA's system of fossil plants has set an all-time record for electricity produced in a fiscal year. For the 12 months ending in September, TVA's 11 coal-fired plants generated 100.1 million megawatt-hours, surpassing the previous record of 97.2 million megawatt-hours set in 1993.
- Two TVA fossil units set records for continuous runs during the past quarter. In September, Gallatin Fossil Plant Unit 2 set a continuous run record when it surpassed the record of 179 days it set in 1999. The continuous run was still under way when the quarter ended. Also in September, Colbert Fossil Plant Unit 1 set a continuous run record of 239 days before it was taken offline. Employees at the Colbert plant have worked almost 4.9 million work-hours without a lost-time accident, an all-time record for a TVA fossil plant.
- Several other TVA fossil plants also had outstanding generation performance in Fiscal Year 2001. Cumberland Fossil Plant generated 18.97 million megawatt-hours, the most ever generated by a TVA fossil plant during a fiscal year. The Allen and Johnsonville Fossil Plants generated more electricity in Fiscal Year 2001 than in any year since 1970.

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- The July 5, 2001, issue of *Nucleonics Week* ranked Sequoyah and Browns Ferry nuclear plants as the second and third most efficient nuclear power generators in the nation in 2000. Sequoyah also ranked second in the nation for having the lowest average operating costs for the three-year period of 1998-2000.
- Watts Bar Nuclear Plant received the 2001 Utility Achievement Award from the American Nuclear Society in recognition of its performance and achievements.
- TVA submitted applications to the Nuclear Regulatory Commission for approval to produce tritium at the Watts Bar and Sequoyah Nuclear Plants for the U.S. Department of Energy.
- As part of our continuing commitment to air quality, we are installing 18 selective catalytic reduction systems (SCRs) at seven fossil plants to further reduce emissions of nitrogen oxide (NOx). By 2005, TVA emissions of NOx during the summer ozone season will be reduced by about 75 percent, compared to levels in the mid-1990s. Two SCRs now operating at Paradise Fossil Plant reduced NOx emissions from the plant by about 13,650 tons during the summer ozone period.
- The final Environmental Assessment was completed and the Finding of No Significant Impact signed for SCRs at Widows Creek Fossil Plant Units 7 and 8. The Unit 7 SCR is scheduled to begin operating in 2003, and the Unit 8 SCR in 2004. They are expected to reduce NOx emissions from the two units by 80 percent.

## RIVER SYSTEM OPERATIONS & ENVIRONMENT

- As part of the nation's most extensive hydro automation program, we completed the automation of Chickamauga, Nickajack, and Tims Ford hydro projects in FY 2001.
- Employees also continued to make progress in our hydro modernization program, adding more than 78 megawatts of capacity at five conventional hydro units—Wilson, Kentucky, Douglas, Guntersville, and Fontana—during 2001. We completed the comprehensive modernization of Unit 1 at Raccoon Mountain. This effort involved the largest hydro outage in TVA history and increased Raccoon Mountain's capacity by more than 50 megawatts.
- Also at Raccoon Mountain, employees set a record for annual generation in FY 2001 and achieved a forced outage rate of less than 0.2 percent. TVA's FY 2001 forced-outage rate for conventional hydro power was less than 1 percent—significantly below the industry average of 5 percent.
- During the quarter, Raccoon Mountain employees reached the milestone of having worked one million hours without a lost-time injury—an industry landmark that took 10 years to accomplish.

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- Each year on August 1, TVA's tributary reservoirs are typically at their targeted minimum summer recreation levels, and unrestricted drawdowns of the reservoirs begin. However, because of heavy rainfall in late July, most reservoirs remained significantly above normal August 1 levels. Six of the 10 tributary reservoirs were still at or above their August 1 minimum levels on August 8, some as much as 8 feet above target. Because of long-term drought conditions, however, Chatuge and Hiwassee Reservoirs remained about 1 foot below the specified minimum summer levels.
- TVA finalized the selection of a site for construction of a Regenesys electricity storage system. The Regenesys® system can store electricity available during periods of lower power demand and generate electricity during times of peak demand. This system—the first in the United States and only the second in the world—will be installed near Columbus Air Force Base in Mississippi.
- TVA conducted a major air-sampling project during July and August at the Look Rock "Supersite" near the Great Smoky Mountains National Park. The project was conducted concurrently with EPA's Eastern Supersite Study, which focuses on urban locations.
- TVA atmospheric scientists began a new EPA-funded study to better understand the dynamics of ozone formation in the lowest layer of the urban atmosphere. This study will help determine how reductions in NOx emissions from the Cumberland plant have affected ozone levels in the greater Nashville area.
- On July 26, an earthquake occurred in East Tennessee. The earthquake had a duration magnitude of 3.3, and its epicenter was one mile southeast of Douglas Dam. Site inspections of Douglas Dam, the 10 saddle dams on the Douglas Reservoir, and the three dikes at Dandridge revealed no damage.
- The main navigation lock at Pickwick was taken out of service on August 14 because of a fracture in a main diagonal brace. River traffic was routed through the smaller auxiliary lock. TVA provided the Army Corps of Engineers with details for a repair that allowed the lock to be returned to service August 16. Structural evaluations and metallurgical testing will determine if additional, long-term gate modifications are required.
- On August 13 a visitor drowned at Great Falls. Two men tried to swim across the gorge while water was being spilled at the dam. One of the men returned to shore and informed the senior operator that the other man was missing. Spilling was stopped, and the TVA Police and local police recovered the body. The tailwater warning system worked as designed, and the warning light was operating at the time of the incident.

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- Director Harris presented the TVA Board's response to initial recommendations from the Regional Resource Stewardship Council at the Council's August meeting in Guntersville, Alabama. The Council reacted favorably to the Board's response and expressed appreciation to Director Harris and Chairman McCullough. The Council approved six additional recommendations for submission to the Board on public lands management, water quality, and navigation.
- TVA conducted a field tour for members of the Regional Resource Stewardship Council on the day before the Guntersville meeting. Council members participated in discussions on the use of a stakeholder group process to develop strategies for managing aquatic plants. Members also viewed equipment used to apply herbicides to near-shore areas along developed shorelines and mechanically cut access lanes.
- We received four proposals from 30 potential bidders to perform Phase I work to support our Reservoir Operations Study. We are initiating this two-year study in response to a recommendation from the Regional Resource Stewardship Council.
- The July-August issue of *Power* referenced TVA and Hydro Resource Solutions LLC (HRS) in the cover article "Interest Surges Forward in North American Hydro States." This trade journal for the power industry credits the TVA/HRS WaterView® technology with improving operating efficiency up to 5 percent at hydro projects on the Columbia River.
- The U.S. Patent and Trademark Office notified TVA that our patented reciprocating constructed wetlands technology (ReCip) has been approved as a registered trademark. ABX Air, Inc., of Wilmington, Ohio, will use the TVA technology to operate a 10-acre wetlands to treat de-icer runoff from the Wilmington Air Park facility. This will be the largest application of ReCip® technology to date.
- TVA completed the Table Rock Tailwater, Hydrodynamics, and Water Quality Modeling project for the Missouri Department of Conservation. TVA's River Modeling System was used to explore water quality, habitat, and wadeability issues.
- TVA received a \$1.9 million contract from the Defense Threat Reduction Agency to complete the dismantlement of the chemical weapons production facility in Nukus, Uzbekistan. The project is scheduled for completion next fiscal year.
- TVA staff traveled to Egypt for project briefings and discussions on the Lake Manzala Constructed Wetlands Demonstration Project near Port Said. Staff visited pilot and demonstration-scale wetlands construction sites, assisted with technical issues, and helped prepare operational plans. TVA will continue project management support of the Lake Manzala Project, which uses TVA's constructed wetlands technology, ReCip®, through the construction phase and will help with startup of the pilot plant.

## CUSTOMER SERVICE

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- TVA is negotiating with representatives of power distributors and the Tennessee Valley Public Power Association on increased flexibility in customers' contracts with TVA. The proposals encompass a wide range of distributor interests, including short- and long-term contract options and partial requirements. Distributors have expressed appreciation to TVA for what has been proposed thus far, and work groups have been formed on the different proposals.
- During the quarter, TVA approved a total of \$4.1 million in economic development loans for business growth in the Tennessee Valley. These loans are expected to leverage an additional \$60.7 million in capital investment and help create and retain 691 jobs. Loans to Valley minority businesses totaled \$246,000.
- TVA continues to facilitate the "Mississippi Crescent Initiative," a collaborative regional development project in northeast Mississippi. Five teams of leaders and officials from across the region are developing projects and implementing key actions. The teams are Target Industry Analysis and Marketing, Existing Industry Expansion, Business/Entrepreneurship, Telecommunications, and Education/Training. The Target Industry Analysis and Marketing team has completed a trend analysis to determine the area's competitive advantage for recruiting two primary industrial sectors: instruments/instrumentation equipment and medicinal/diagnostic substances.
- A signing ceremony commemorated the formation of the Valley Coalition for Minority Economic Development on September 19 in Nashville. TVA has been instrumental in forming the Valley Coalition, which includes AmSouth Bank, BancorpSouth, Citizens Savings Bank and Trust Company, First Tennessee Bank, SunTrust Bank, and Union Planters Bank. The Coalition supports minority-owned businesses by providing increased access to capital and other technical assistance. Loans to minority-owned businesses will be funded jointly by TVA and Coalition partners. The efforts of the Coalition have already resulted in assistance to two minority businesses.
- TVA's Green Power Switch program continues to receive positive support from power distributors and the public, both inside and outside the Tennessee Valley. In July, TVA issued a Request for Proposals for 20 MW of new wind generation to be built in 2003. This wind energy is critical to continued expansion of the Green Power Switch program.
- In August, Green Power Switch dedicated its ninth solar generation site at Finley Football Stadium, in Chattanooga, Tennessee. This 85 kW system is the largest "thin film" solar generating site in the southeastern United States. In September, the Sci-Quest Science Museum in Huntsville, Alabama, dedicated a 27 kW Green Power Switch solar generating site. This is the 10th solar site supplying energy to Green Power Switch.

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- The Center for Resource Solutions, which accredits TVA's Green Power Switch Program, has given permission for methane produced at the Waste Water Treatment Plant in Memphis, Tennessee, to be co-fired at TVA's Allen Fossil Plant to support Green Power Switch generation. The addition of this methane source will allow for the expansion of Green Power Switch.
- TVA has issued site licenses to telecommunications companies for antennas on 50 TVA sites to date. These efforts support the Telecommunications Act of 1996 and the Presidential Memorandum "Facilitating Access to Federal Property for the Siting of Mobile Services." TVA is also working with telecommunications companies to build optical ground-wire facilities to improve operations of TVA's power system and advance the expansion of telecommunications throughout the Tennessee Valley.
- TVA completed 114 technical services projects for Valley communities and industries during the quarter. Notable projects include conceptual layout and infrastructure plan for industrial property in Lawrence County, Alabama; a target industry report for Gibson and Carroll Counties, Tennessee; preliminary architectural design for downtown renovation in Etowah, Tennessee; conceptual design and layout for a proposed business incubator facility at Western Kentucky University in Bowling Green; an infrastructure plan for a new industrial park in Lee County, Virginia; conceptual design for Tri-State Commerce Park in Iuka, Mississippi; and an economic profile of Calloway County, Kentucky.
- TVA implemented a new service to distributor customers in July that will provide a growing source of easily accessible information. TVA Online Connection is a secure Internet site that offers distributors information that includes real-time product pricing, billing details, and network purchasing, as well as local news feeds and weather. More than 750 distributor employees are registered to use the system, which was accessed more than 20,000 times in the first two months.
- TVA implemented a new Power Billing System on July 10. This system enables customers to view Power Billing Summary Reports via the internet. We are also in the process of replacing our Transmission Billing System with new technology.
- TVA joined with power distributor customers in September to raise more than \$100,000 in the Power Play Scholarship Program. This program funds college scholarships for eligible dependents of distributor employees.

## FINANCIAL

- TVA successfully priced \$1 billion in Global Power Bonds on July 25, 2001. The bonds have a coupon of 4.75 percent and a maturity of July 15, 2004. The bonds were priced at 80 basis points over 3 7/8 percent Treasury of June 2003. The deal was jointly led by Morgan Stanley Dean Witter and Goldman Sachs.
- TVA issued \$144 million of its electronotes<sup>sm</sup>, with a weighted average interest of 6.06 percent, from July 1 through September 30, 2001. The program is marketed to individual investors who can purchase new TVA debt securities offered on a continuous basis on the first and third Monday of each month. TVA worked closely with ABN AMRO, Inc., which designed the program, and Edward Jones, First Tennessee, Hilliard Lyons, Merrill Lynch, Morgan Stanley, and Prudential, who function as the agents for the program.

## HUMAN RESOURCES

- TVA has developed a workforce management model that captures workforce attrition projections and staffing needs, helping us to develop more strategic training and recruitment efforts and effectively maintain a steady-state employment rate of about 13,000 employees over the next five years. We are also addressing attrition concerns through the implementation of the multi-skilling program for trades and labor employees.
- Our Labor Relations staff, working with the unions that represent TVA employees, has developed a model grievance mediation process.

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## ADMINISTRATION

- For the second time, the TVA Police force was accredited by the Commission on Accreditation for Law Enforcement Agencies' board of commissioners in St. Louis, Missouri.
- TVA was again ranked among the most innovative users of information technology by *InformationWeek*, a magazine that covers business-technology issues. TVA is ranked third in the utility industry this year, up from seventh last year. Overall, TVA is ranked 61, up from 211 in last year's rankings. *InformationWeek* annually ranks the top 500 U.S. companies that demonstrate the most innovative use of information technology.
- TVA's response to the computer virus Nimda included activation of our Information Services Emergency Operations Center, and we successfully executed a plan to combat Nimda infections on TVA systems. We have begun a TVA-wide assessment of the vulnerability of our computer operations.



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- We are implementing our Facilities Strategic Plan to maximize the value of space and give us flexibility in the use of TVA facilities. Actions taken this quarter include vacating about 60,000 square feet of leased space and targeting another 25,000 square feet to be vacated in the first quarter of FY 2002. We are also using more than 100,000 square feet of TVA-owned space more efficiently.

## **STATE NEWS**

### **Alabama**

- The Alabama Farm Bureau Federation's third Annual Agricultural Forum, co-sponsored by TVA's Public Power Institute (PPI), was held at TVA's Environmental Research Center in Muscle Shoals on September 25. A memorandum of understanding between the Alabama Farm Bureau and PPI serves as the basis for joint activities on issues of energy and agriculture.

### **Georgia**

- TVA participated in the Towns County Educational System community visioning meeting for an Outdoor Environmental Classroom. Numerous community citizens, organizations and representatives attended.
- TVA partnered with Union County, Georgia, to improve Meeks Park. TVA developed a conceptual plan that includes a greenway trail, wetlands boardwalk, covered bridges, amphitheater, pavilion, and parking lots to help the county secure a \$210,000 grant for the proposed project.

### **Kentucky**

- TVA partnered with Moors Marina, KentuckyLake.com, and the Kentucky Waterways Alliance for a National Clean Boating Event on Kentucky Reservoir. The event attracted 600 people and 150 boats and included a live radio broadcast with an estimated listening audience of 50,000. Kentucky Waterways Alliance is considering developing a statewide Kentucky Clean Boating Campaign based on the positive experience at this event.

### **Mississippi**

- The North Mississippi Enterprise Initiative (NMEI) was officially opened with public ceremonies on September 14. NMEI is a small business incubator network based in Oxford, Mississippi, with satellite facilities in Grenada and Batesville. The NMEI is a nonprofit, public-private partnership to support entrepreneurial development and job creation in these communities. This regional collaboration for small business development received financial support from various federal, state, and local agencies and organizations.

### **North Carolina**

- TVA partnered with Cherokee County, North Carolina, and the town of Murphy to begin development of the Konehete Park Greenway/Trail. The first phase of the three-year project includes an asphalt trail and a fishing platform designed for handicapped access. TVA is working with the North Carolina Department of Transportation to determine if it is feasible to extend the greenway under a highway bridge.

### **Tennessee**

- TVA completed transfer of the Columbia Project lands to the State of Tennessee. Staff participated in ceremonies with state and local officials on August 14 to celebrate this event, which brings closure to the Columbia Project.
- TVA co-sponsored Marketplace 2001, a conference providing information about contract opportunities for small businesses. Organized by the Oak Ridge Chamber of Commerce, the conference focused on contract opportunities with federal agencies including the Department of Energy, National Aeronautics and Space Administration, TVA, and various private companies.
- The Hartsville Site Development Team is continuing to evaluate a portion of the former TVA nuclear plant site for industrial development. Local officials and economic developers are on the team that will help TVA decide on alternative use of the property. The Environmental Assessment on about 600 acres at the site is complete, and findings indicate that this land transfer will have no significant environmental impact.

### **Virginia**

- TVA participated in the interagency kickoff meeting for the Big Cherry Dam project in Wise County, Virginia. Also attending were Lane Engineering, USDA Rural Development, USDA Forest Service, U.S. Army Corps of Engineers, and representatives from the town of Big Stone Gap. Rural Development proposes to give the town \$4 million to build a new dam and raise the water level of the existing Big Cherry Reservoir on South Fork Powell River. The proposed dam and a water intake would require TVA Section 26a approval.
- Cleanup of the 70-year-old illegal Red Oak Ridge dump site in Dante, Virginia, resulted in the removal of nearly 300 tons of debris and approximately 2,000 tires. TVA cooperated with the U.S. Fish and Wildlife Service, Virginia Department of Transportation, Canaan Valley Institute, local agencies, private groups and landowners in cleaning up the site.